

PROJECT TITLE : INSTRUMENTATION AND PROCESS AUTOMATION  
PERIOD COVERED : 23 OCTOBER - 22 NOVEMBER 1981  
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#### AUTOMATION OF THE SMOKING LABORATORY (PROJECT COLDAC)

The main peripherals and computers involved in this project were subjected to various reliability tests during this period and the results were positive.

The two lines of the "Data-link" which connect, in the multi-point mode, all the terminals in the laboratories are working successfully, especially regarding immunity to radio-electric interferences. The RTE IV B software, revision 2126, will not be put into operation before the middle of December due to the complexity of its installation. The function of the RTE IV B operating system is to check, in real time, the acquisition of analytical data on the HP 1000 F computer.

At the time of writing the Instrumentation group has already successfully performed a prior revision (2040). This was done for practice. As it is most important that the real time operating system is set up correctly, an engineer from Hewlett-Packard will come to supervise the work at the end of November.

#### RTD/DIL DATA PROCESSING

The programmes for the daily processing of RTD/DIL data were changed in order to make them more suitable for the users. The direct link-up between the measuring head and the calculator is currently in operation and a test programme has been proposed to the QC laboratory concerning automatic data input. The routine which governs the SODIM instrument checks the RTD values transmitted against the brand specification. When a deviation from the norm of more than 30% is detected, the calculator refuses the measurement and asks the instrument for another one. In this way, drift or sampling errors are avoided. The calculator waits until it has 10 measurements within the  $\pm 30\%$  limit before calculating the average and standard deviation of each sample. These values are then entered into the daily statistics.

## CONSTRUCTION OF MEASURING INSTRUMENTS

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Due to the interest expressed by QC PME USA laboratories in our compressibility instrument, we are planning to construct a new series of 10 units for spring 1982.

### NITRATE-MONITORING

The transfer of the laboratory installation to the Pilot Plant has now been completed.

A series of modifications was made in the different programmes which control the process.

These changes concern the following points :

- Change of the formats of different graphic and alpha-numerical screens;
- Modification of the list of parameters available to the operator;
- Changes in the reliability checks (upper and lower limits) of the different variables introduced using the keyboard;
- Simplification of the printed reports;
- Introduction of an auto-start programme to set off the system again after power failure.



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